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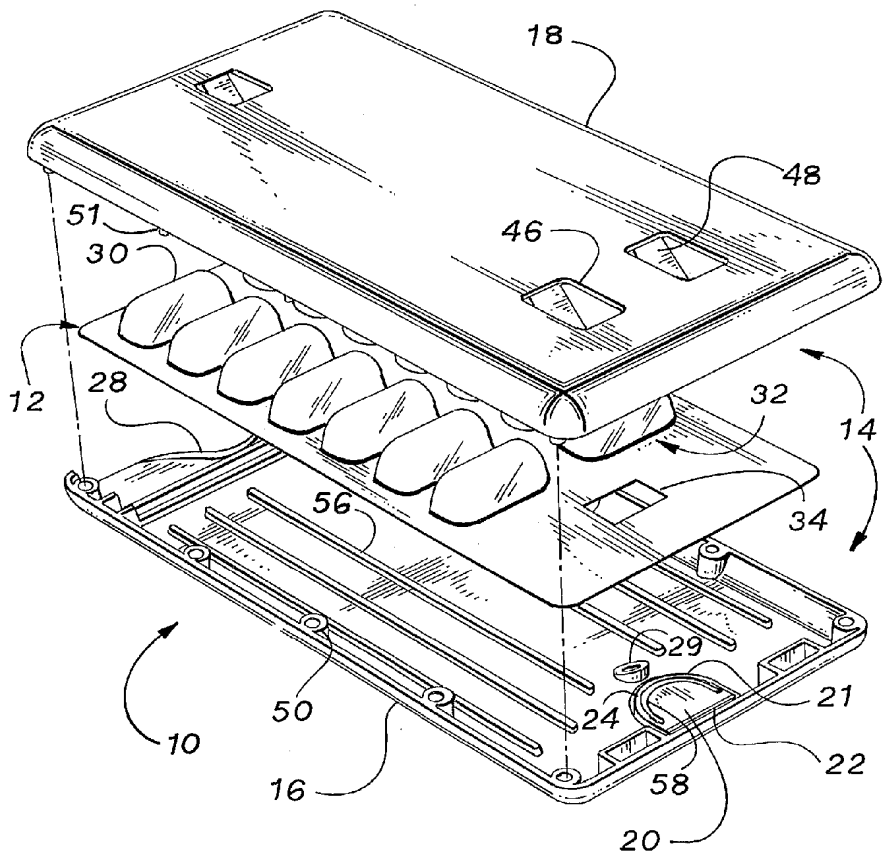
[Continued on next page]

(54) Title: IMPROVED CHILD RESISTANT PACKAGE



(57) Abstract: A child-resistant package (100) is formed from a sleeve (14) comprising a top (16) and a base (18), at least one of which is an outer wall of the sleeve (14). A release mechanism (20) for facilitating access to the contents of the package (100) is disposed in the outer wall (16). A decoy cover (60) having at least one outermost panel (62) is disposed in relation to the outer wall (16) to obscure the release mechanism (20). The package (100) may include an insert (12) that is held within the sleeve (14) by a locking mechanism that is disengaged by the release mechanism (20). The decoy cover (60) is attached to the outer wall (16) in a manner that facilitates repeated successive removal and reattachment of the decoy cover (60). The decoy cover (60) may further include one or more additional panels (64) disposed in flat-face condition with the outermost panel (62).

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IMPROVED CHILD RESISTANT PACKAGE

RELATED APPLICATIONS

This application claims priority to U.S. Application No. 60/776,021, filed February 23, 2006, the entirety of which is incorporated herein by reference.

TECHNICAL FIELD

The present invention relates generally to a child-resistant package for storing and dispensing items or products, and more specifically, the present invention is directed to a package including a locking mechanism, a releasing mechanism, and a decoy cover that obscures the releasing mechanism.

BACKGROUND OF THE INVENTION

Most child-resistant packaging relies on locking mechanisms with a release mechanism that requires adult skills, such as cognitive thought, strength, and/or dexterity, to access the contents of the package. However, release mechanisms that require strength may make the package inaccessible by older adults. Additionally, release mechanisms that require cognitive thought or dexterity may be triggered accidentally by a child.

Associated locking and release mechanisms are particularly useful in packages that utilize inserts. For example, many medicines are packaged in blister cards that are inserted in a sleeve and secured in the sleeve by a locking mechanism. Such blister cards have bubbles formed from a plastic sheet wherein the bubbles are sealed by a paper layer or foil. The paper layer or foil is punctured or ruptured as a typical means of releasing one dose from a corresponding bubble. Generally, when the release mechanism for the locking mechanism is triggered, the inserted blister card can be partially or fully removed from the sleeve so that the contents of the package are partially or fully exposed.

There remains in the art a need for packaging that is increasingly child-resistant, especially where the contents can be exposed when the release mechanism of a package is triggered.

SUMMARY OF THE INVENTION

The present invention overcomes the shortcomings of the prior art by providing a decoy cover for a child-resistant package that creates an additional barrier for children to overcome in order to attain access to the contents of the package, while facilitating adult use and maintaining low cost of manufacture. The decoy cover can be applied to packages that include a release mechanism disposed in an outer wall of the package, wherein the release mechanism is used to gain access to the contents of the package.

In one aspect of the invention, a package is formed from a sleeve that has at least one outer wall. A release mechanism for facilitating access to the contents of the package is disposed in the outer wall. A decoy cover having an outermost panel is disposed in relation to the outer wall to obscure the release mechanism.

In a further aspect of the invention, a package is formed from a sleeve that has an outer wall and an insert is held within the package by a locking mechanism. A release mechanism for facilitating at least partial removal of the insert is disposed in the outer wall. A decoy cover is disposed in relation to the outer wall to obscure the release mechanism.

In another aspect of the invention, the decoy cover is attached to the outer wall in a manner that facilitates repeated successive removal and reattachment.

The foregoing has broadly outlined some of the aspects and features of the present invention, which should be construed to be merely illustrative of various potential applications of the invention. Other beneficial results can be obtained by applying the disclosed information in a different manner or by combining various aspects of the disclosed embodiments. Accordingly, other aspects and a more comprehensive understanding of the invention may be obtained by referring to the detailed description of the exemplary

embodiments taken in conjunction with the accompanying drawings, in addition to the scope of the invention defined by the claims.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is an exploded view of a prior art child-resistant package including elements for forming a sleeve and an insert.

FIG. 2 is an alternative exploded view of the child-resistant package of FIG. 1.

FIG. 3 is a perspective view of an exemplary embodiment of a child-resistant package with insert, according to the present invention.

FIG. 4 is a perspective view of another exemplary embodiment of a child-resistant package with insert, according to the present invention.

DETAILED DESCRIPTION

As required, detailed embodiments of the present invention are disclosed herein. It must be understood that the disclosed embodiments are merely exemplary of the invention that may be embodied in various and alternative forms, and combinations thereof. As used herein, the word "exemplary" is used expansively to refer to embodiments that serve as an illustration, specimen, model or pattern. The figures are not necessarily to scale and some features may be exaggerated or minimized to show details of particular components. In other instances, well-known components, systems, materials or methods have not been described in detail in order to avoid obscuring the present invention. Therefore, specific structural and functional details disclosed herein are not to be interpreted as limiting, but merely as a basis for the claims and as a representative basis for teaching one skilled in the art to variously employ the present invention.

Referring now to the drawings, wherein like numerals indicate like elements throughout the several views, the drawings illustrate certain of the various aspects of exemplary embodiments of a child-resistant package, according to the present invention. Generally described, the basic package

includes a blister card and an outer sleeve. Sometimes, herein for simplicity, the outer sleeve will simply be referred to as a sleeve. The blister card is retained in the outer sleeve by a locking mechanism to form the basic package. The blister card can be released from the outer sleeve by a release mechanism. In accordance with the teachings of the invention, a decoy cover is disposed on an outer wall of the outer sleeve to cover and otherwise obscure the release mechanism, making it more difficult for a child to gain access to the contents of the package. This enhances or increases the child-resistance characteristic of the package.

FIGs. 1 and 2 illustrate exemplary embodiments of elements for forming a sleeve **14** together with an insert in the form of a blister card **12** for ultimately forming a child-resistant package **10** in accordance with the teachings of the present invention. The outer sleeve **14** includes a top **16** and a base **18** that form the outer walls of the sleeve **14**. In FIG. 2 the orientation of the of the insert **12**, top **16** and base **18** are inverted and rotated 180 degrees as compared to FIG. 1 in order to more clearly show all of the features of the elements. The top **16** and the base **18** may be integrally connected and the outer sleeve **14** may be formed in any suitable manner and from any material suitable for forming a container or package in general. For example, the outer sleeve **14** may be molded from plastic or may be formed from a paperboard blank that is folded to erect the outer sleeve, or a combination thereof, and the like.

The blister card **12** has blisters **30** that can contain one or more articles. Here, for purposes of teaching and not limitation, the articles are doses of medication. The blisters **30** are arranged on the blister card **12** in two columns **32** to avoid obstruction by the internal features of the outer sleeve **14** as the blister card **12** slides within the outer sleeve **14**. The illustrated blister card **12** further includes an aperture **34** that is designed to receive a detent, as further described below. The blister card **12** is constructed of the same materials with strengths and thicknesses as are conventional in blister cards sold in traditional cardboard sleeves.

The top **16** and the base **18** include elements that are designed to selectively position, retain, and release the blister card **12** or otherwise form a

locking mechanism and a release mechanism. The illustrated release mechanism includes a push button **20** that is integrally formed in the outer sleeve **14**. The push button **20** in the embodiment illustrated is essentially a spring-loaded member that is deflectable. The push button **20** is defined in the top **16** by a U-shaped channel **21**, wherein the channel **21** fully extends through the top **16**. The push button **20** can be allowed to deflect by a resilient living hinge section **22** that is disposed at the supported end of the push button **20**. A free end **24** is defined as the end of the push button **20** that opposes the supported end of the push button **20**.

The illustrated locking mechanism includes a detent **29** that is adjacent to the free end **24** of the push button **20**. The detent **29** extends inwardly from the inside surface of the top **16** and the upper surface of the detent **29** slants upwardly. More specifically, the highest portion of the upper surface of the detent **29** is closest to the push button **20**. The locking mechanism further includes means for engaging, such as flat springs **48** that extend inwardly from openings **46**. The openings **46** are disposed in the base **18**. Other means for engaging include ribs, leaf springs, dagger springs, and the like, which exert a compressive force.

Other elements are provided to facilitate partially withdrawing the blister card **12** from the locking sleeve. A cutout **28** is provided in the outer edge of top **16** to expose a portion of the blister card, which can then be gripped. Ribs **56** are optionally included in the inside surface of the top **16**. The ribs **56** on the inside of the top **16** facilitate sliding the blister card **12** within the outer sleeve **14**. There is also a rib **58** on the inside surface of the push button **20** that facilitates engaging the blister card **12**. The base **18** includes a retainer **54** such that the blister card **12**, once inserted in the outer sleeve **14**, cannot easily be fully removed from the outer sleeve **14**. The retainer **54** extends inwardly from an opening in the base **18**.

In some embodiments, the top **16** and the base **18** may further include elements that facilitate assembling the outer sleeve **14**. For example, as shown, the top **16** includes hollow cylinders **50** and the base **18** includes pins **51**. Each cylinder **50** corresponds to a respective pin **51** such that, as each pin **51** is received in a respective cylinder **50**, the outer sleeve **14** is formed. A

blister card **12** can be inserted into the sleeve **14** or can be placed in the sleeve **14** during assembly of the sleeve **14**. A fully-formed sleeve **14** is shown in FIGs. 3 and 4.

In forming the sleeve **14**, as the blister card **12** is substantially fully inserted, the slanted upper surface of the detent **29** allows the blister card **12** to slide over the detent **29** and deflect the springs **48** until the detent **29** is received in the aperture **34**. As the detent **29** is received in the aperture **34**, the springs **48** force a portion of the blister card **12** against the top **18** and retain the detent **29** in the aperture **34**. The blister card **12** is thereby secured in the outer sleeve **14** to form the package **10**.

The blister card **12** can be extended or partially removed from the outer sleeve **14** by depressing the push button **20** and simultaneously pulling the blister card **12** from the opening of the outer sleeve **14**. Depressing the push button **20** moves the blister card **12** toward the base **18** such that the detent **29** is disengaged from the aperture **34** and the springs **48** are deflected. Thereby, the blister card **12** can be extended from the outer sleeve without being obstructed by the detent **29**. The blister card **12** can continue to be removed from the outer sleeve **14** until the aperture **34** is engaged by the retainer **54**.

FIG. 3 illustrates an exemplary embodiment of a child-resistant package **100** wherein a decoy cover **60** is attached to cover or otherwise obscure the push button **20**, according to the present invention. The decoy cover **60** may be only one panel that serves as an outermost panel **62** that is releasably secured over the release mechanism. For example, the panel **62** may be in the form of a sticker attached by an adhesive. The material used to form the outer sleeve **14**, the material used to form the decoy cover **60**, and a type of adhesive can be chosen such that the decoy cover **60** can be repeatedly successively secured to, and detached from, the outer sleeve **14**. In certain exemplary embodiments, the material used to form the decoy cover **60** is chosen to be substantially impenetrable such that a child cannot push through the decoy cover **60** to engage the release mechanism. In the exemplary embodiment, the decoy cover **60** is large enough to substantially cover the entire top surface of the outer sleeve **14**. However, the decoy cover

60 can be any size that is suitable to cover the push button **20**. In additional embodiments, a camouflage material is used to form the decoy cover **60**. For example, a material that is substantially visually similar to the material used to form the outer wall **16** of the outer sleeve **14** to which the decoy cover **60** is attached can be used to camouflage the release mechanism of the outer sleeve **14**.

The outermost cover panel **62** may include a tab T. The distal end of each cover flap can be releasably secured to the outer wall **16** by means of an adhesive such that the tab T can be releasably adhered to the outer cover **14**. Thereby, the decoy cover **60** covers the push button **20**. The tab T may initiate lifting of the outermost panel **62** to pull the decoy cover **60** from the surface of the outer sleeve **14** so the user can access the push button **20**.

Referring now to FIG. 4, another exemplary embodiment of a child-resistant package **100** is shown wherein the decoy cover **60** includes at least one additional panel **64** sandwiched between the outermost panel **62** and the outer wall **16** of the sleeve **14**. In this embodiment, a first edge of each cover flap **62**, **64** is attached in hinge-like fashion to the outer wall **16**. Multiple cover flaps can be used to provide product information, instructions, or other text or graphics to the user.

In additional exemplary embodiments, the decoy cover is formed from a substantially rigid material and the outer sleeve and decoy cover include mechanical elements that allow the decoy cover to be secured and released from the outer sleeve. For example, the decoy cover can be a door that is hingedly attached along one edge of the outer sleeve. The distal end of the door can be secured to another edge of the outer sleeve with a mechanical mechanism such as a latch, a catch, a snapping mechanism, Velcro®, a detent and aperture arrangement, and the like. In further exemplary embodiments, the decoy cover can be a door that slides in a slot.

To an extent, a portion of the effectiveness of the decoy cover relies on cognitive skill differences between young children and adults. Young children typically do not use the scientific method in solving problems. That is, they do not generate and test hypotheses related to the problems they face. In fact,

the problem-solving behavior of young children exhibits a so-called win-shift pattern. In other words, a child will typically attempt incorrect solutions repeatedly and only shift to a correct solution after it is found by accident. Thus, additional child-resistance can be provided by hiding or disguising the correct solution such that it will not even be attempted.

In this way, the decoy cover makes it necessary for a child to go through an additional stage of accidental discovery to obtain access to the contents of the package. Thus, for example, if the decoy cover is used to disguise the release mechanism of a package, and that release mechanism requires dexterity, the child will have to first accidentally discover the release mechanism of the package and then, additionally, accidentally trigger the release mechanism to access the contents of the package. The package is then resistant to a greater number of children, including those who do not discover the release mechanism and those who do discover the release mechanism, but do not correctly trigger the release mechanism.

The scope of the invention is not limited to the exemplary embodiments of packages shown in FIGs. 1-4. Rather, the invention is applicable to any package with an outer sleeve that includes a release mechanism accessible from an outer wall for releasing a structure from the outer sleeve.

The law does not require and it is economically prohibitive to illustrate and teach every possible embodiment of the present claims. Hence, the above-described embodiments are merely exemplary illustrations of implementations set forth for a clear understanding of the principles of the invention. Variations, modifications, and combinations may be made to the above-described embodiments without departing from the scope of the claims. All such variations, modifications, and combinations are included herein by the scope of this disclosure and the following claims.

CLAIMS

What is claimed is:

1. A package (**100**) comprising:

   a sleeve (**14**) having at least one outer wall (**16**) having a release mechanism (**20**) disposed therein; and

   a decoy cover (**60**) disposed over said release mechanism (**20**).

2. The package (**100**) of claim 1, wherein said decoy cover (**60**) is attached to said outer wall (**16**) in a manner that facilitates repeated successive removal and reattachment thereto.

3. The package (**100**) of claim 1, further comprising a blister card (**12**) disposed within said sleeve (**14**) such that said blister card (**12**) is at least partially removable upon actuation of said release mechanism (**20**).

4. The package (**100**) of claim 1, said decoy cover (**20**) comprising an outermost panel (**62**) having a tab (T) extending therefrom adapted for initiation of separating said outer panel from said outer wall.

5. The package (**100**) of claim 1, wherein said release mechanism (**20**) comprises a member adapted for deflection.

6. The package (**100**) of claim1, wherein said decoy cover (**60**) includes an outermost panel (**62**) simulative of said outer wall (**16**).

7. The package (**100**) of claim 1, wherein said decoy cover (**60**) comprises an outermost panel (**62**) and at least one additional panel (**64**) associated in separable face-contacting condition with said outermost panel (**62**).

8. The package (**100**) of claim 2, said decoy cover (**20**) comprising an outermost panel (**62**) having a tab (T) extending therefrom adapted for initiation of separating said outermost panel (**62**) from said outer wall (**16**).

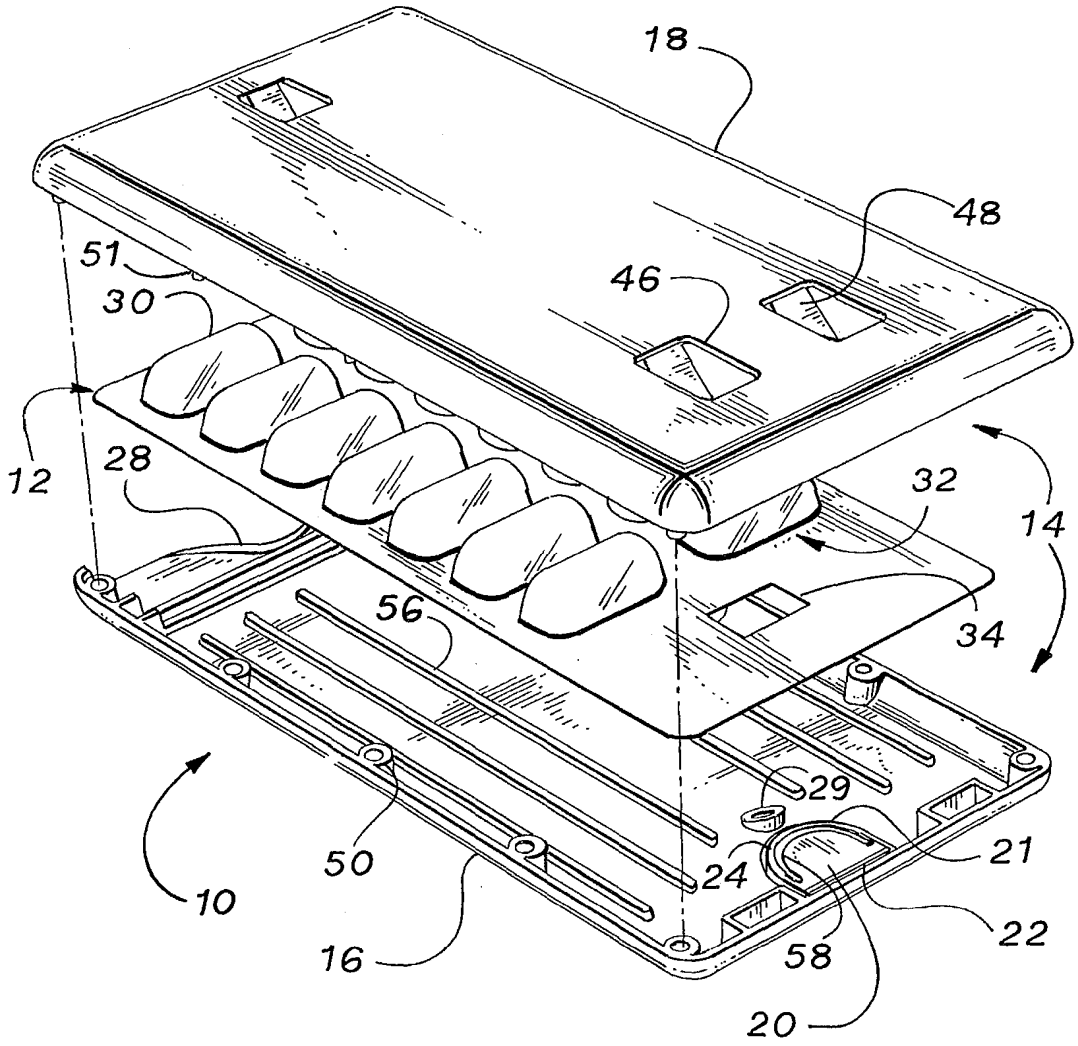

Fig. 1

PRIOR ART

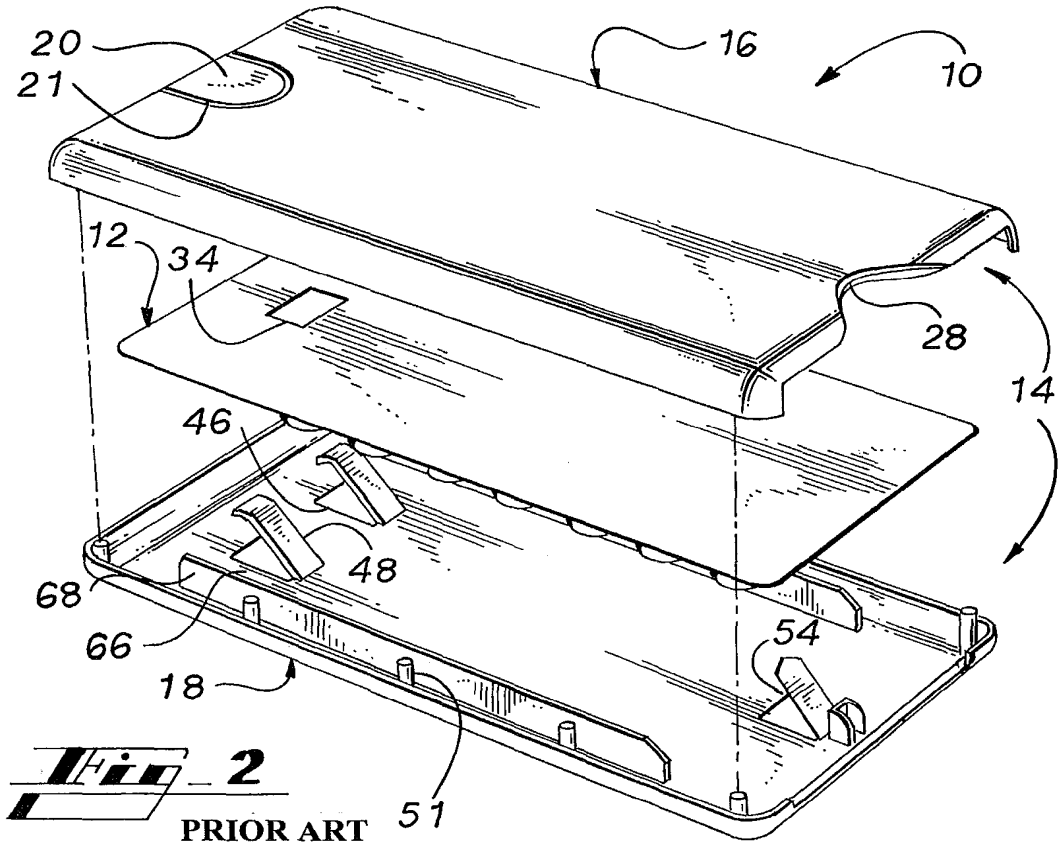

Fig. 2
PRIOR ART

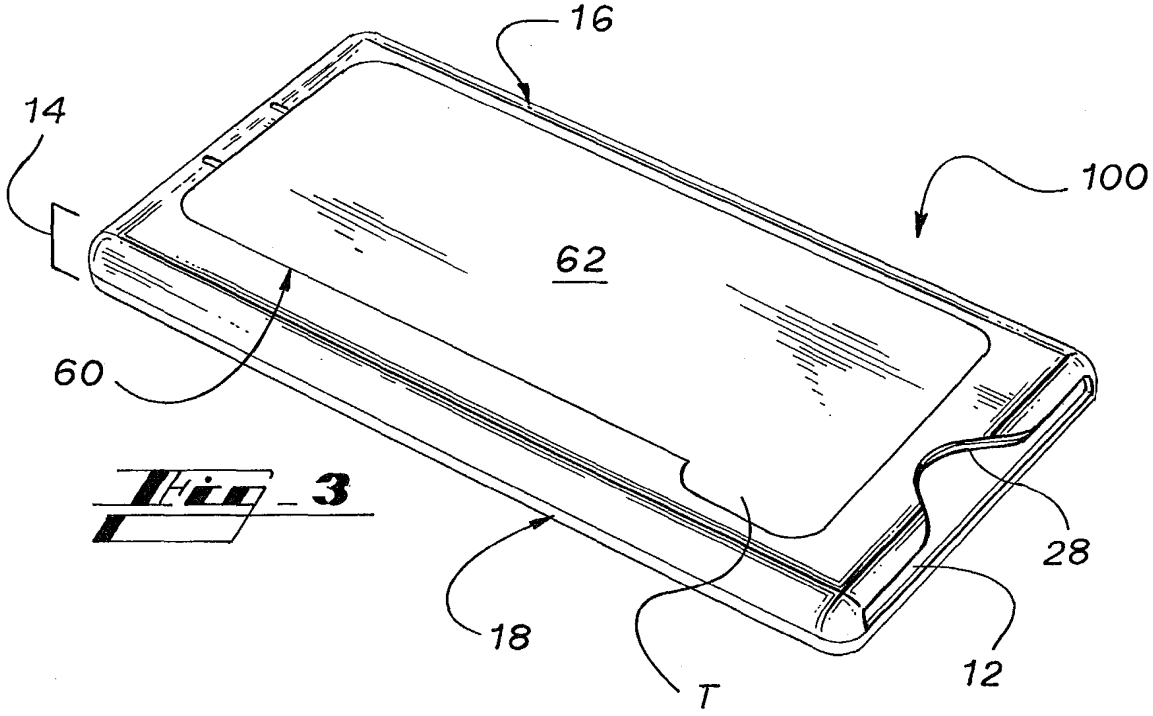

Fig. 3

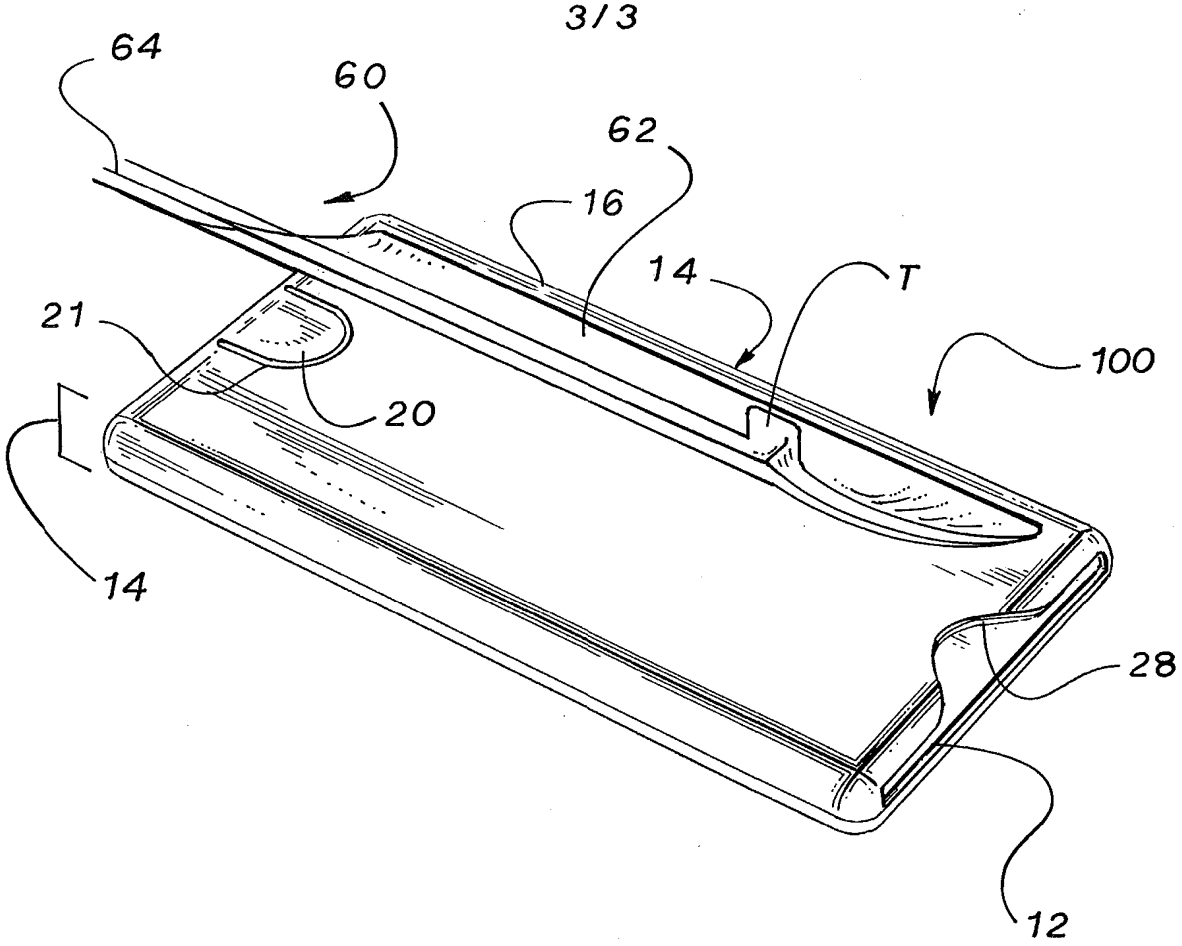

Fig. 4

INTERNATIONAL SEARCH REPORT

International application No
PCT/US2007/062693

A. CLASSIFICATION OF SUBJECT MATTER
INV. B65D83/04

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
B65D B65B A61J

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)
EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

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X	EP 0 547 730 A2 (MERCK & CO INC [US]) 23 June 1993 (1993-06-23) the whole document	1,2,4-6, 8
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X	WO 2005/068304 A (MEADWESTVACO CORP [US]; HESSION CHRISTOPHER [US]) 28 July 2005 (2005-07-28) figures 13,14,16	1-3,5-7

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[X] Further documents are listed in the continuation of Box C.

[X] See patent family annex.

* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

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"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

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"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

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"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
13 July 2007	23/07/2007

Name and mailing address of the ISA/	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL – 2280 HV Rijswijk Tel. (+31–70) 340–2040, Tx. 31 651 epo nl, Fax: (+31–70) 340–3016	Pernice, Ciro

INTERNATIONAL SEARCH REPORT

International application No
PCT/US2007/062693

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

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A	WO 2005/030606 A (MEADWESTVACO CORP [US]; GELARDI JOHN A [US]) 7 April 2005 (2005-04-07) the whole document	1-8

INTERNATIONAL SEARCH REPORT

Information on patent family members

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